State of Utah

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

Department of Administrative Services
KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management
GREGG BUXTON
Director

ADDENDUM #1

Date: January 25, 2008

To: Contractors

From: S'ean Crawford, Project Manager, DFCM

Reference: Matheson Courthouse Entry Remodel
Administrative Office of the Courts, Salt Lake City, Utah

DFCM Project No. 07204150-P1

Subject: **Addendum No. 1**

Pages			
	Addendum	2	pages
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	Attachment #1 – Revised Plan	1	page
	Attachment #2 – Revised Glazing Detail	1	page
	Attachment #3 – Revised S101	1	page
	Attachment #4 – Specification 07811	9	pages
	Attachment #5 – Specification 08311	2	pages
	Total	**20**	**pages**

Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

1.1 SCHEDULE CHANGES – There are no changes to the Project Schedule.

1.2 PROJECT CLARIFICATIONS

1.2.1 – **Background checks** are required for all personnel that will access the project site, there are no exceptions. It is the General Contractors responsibility to provide a BCI issued background sheet to building security for approval at least 3 business days prior to the employee/subcontractor needing access. The contractor must coordinate with the Salt Lake County Sheriff (building security). It is at the County Sheriff's discretion to approve construction workers for access, justification will not be provided for denial.

Background checks are available from the;

Utah Bureau of Criminal Identification
3888 W 5400 S, Taylorsville, Utah

Each employee must appear in person, with a completed application the required the fee for each person is $10.00, payable in cash, personal check, credit card, money order, or cashier's check. A valid form of government issued picture ID **must** accompany the request; a driver's license is acceptable. Hours are 9:00 am to 5:00, Monday through Friday.

The application for a Criminal History is available online at

http://bci.utah.gov/Records/expungement_ROA.pdf .

1.2.2 – **Hours of Project Construction.** This issue was emphasized at the mandatory meeting, and can not be emphasized enough. This project shall be completed outside of the hours of operation for the State Court, the function of the State Courts shall not be effected by the construction of the project. Construction shall be performed during evenings and weekends, work shall be staged in such a manner that does not impact the daily function and public access to the Matheson Courthouse. The hours of the courts varies in the evenings and the work schedule must be coordinated and approved by the County Sheriff (building security), this is critical for successful completion of this project.

1.2.3 **- Building Security.** Building security is provided by the Salt Lake County Sheriffs office. The cost for after hours security shall be covered by the DFCM for all hours that are coordinated with the Sheriffs office a minimum of 3 weeks in advance. It will be the General Contractors responsibility to pay for the cost of security for hours required due to a lack of planning and/or unscheduled times, there is the possibility that the Sheriff can not accommodate requests with short notice.

End of Addendum #1

addendum 001

project:	Entry Remodel - Matheson Courthouse
project no.:	07204150-P.1 DFCM/ 07060.01
date:	January 24, 2008
owner:	Administrative Office of the Courts - Salt Lake City, Utah
bid date:	01/31/2008
bid time:	03:00 PM
no. pages:	4

This Addendum shall be considered part of the Contract Documents and Project Manual for the above mentioned project as though it had been issued at the same time and shall be incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original Contract Documents and Project Manual, the Addendum shall govern and take precedence.

General Notes

Item 1.01	See Clarification Note Below **Question #9**: Please clarify if all drilling of the main concrete floor deck is to be x-rayed, i.e.. column and railing anchors. We also need to know the thickness of the floor to determine the cost of the x-rays. **Answer**: Clarification of Contractor question about the use of x-ray of concrete slab before drilling thru slab where electrical floor boxes are to be placed (use score and chip method in existing slab between pan joist) and where drilling for conduit placement or anchor bolting placement in existing concrete slab. Bars are spaced far enough apart an should allow drilling procedure. a. Electrical Floor Boxes - these have been located in the slab between pan joists. The thickness of the existing stone on grout bed to top of slab is close to the height of the floor box which is to be set flush with the stone finish height. Carefully mark, score and chisel to remove for this box. Drill slab for conduit location to parking level below. b. Drilling Procedure - mark conduit and anchor bolt locations before drilling. If rebar is encountered, back off and re-drill to side. Make final adjustment to base plates
Item 1.02	**Question #10**: It was mentioned in the pre-bid that a construction schedule is to be turned in with our bid. Please change this to be turned in with our subcontractor list within 24 hours. This would work much better for us. It would give us time to go over the schedule with the low sub contractors. Please state this requirement in the addendum. **Answer**: Having the schedule turned in with the subcontractor is acceptable.

Item 1.03	See Related Phase Coordination Key Notes on Plans Section 100 and AE102 as Described Below. **Question #11**: In the Description of Work section just after the Notice of Contractors in the project manual, it includes the relocation of the existing security equipment, installation of the new security equipment, and HVAC. I'm not seeing where any work is called out on the plans for these items. I do see an AE102 where the security equipment work is NIC. **Answer**: Sheet SEC100 Key Note 2R phased development coordination. General Contractor is to coordinate with Owner prior to substantial completion to enable for the Owner to reposition Key Note 8 into new construction to be plugged into electrical Key Note 16C outlets. Contractor Key Note 2L should be phased after equipment has been relocated by Owner. See also Key Note 12A/AE102 Contractor is to coordinate placement of these security storage cabinets prior to substantial completion.

Drawings

Item	Description
Item 1.04	Sheet SEC 100 - See Plan 1/100, Legend Notes and Descriptions **Question #6**: Is a visqueen bubble over the construction staging are in the east area to be required and if so please clarify where it is to be located and at which points it is to attach to existing finishes? **Question #7**: What measures to alleviate welding fumes are to be taken? **Answer**: Refer to Legend Note 2 which requires "Contractor to tent all work areas (tp encapsulate/seal off) for air quality containment of fugitive dust control measures, and particulate, etc. (fumes) caused by construction. This requires the Contractor to use his means and methods to ensure the air quality of the entire existing building envelope is free from any particulate which the construction can generate. By tenting all work areas for air quality containment.
Item 1.05	Sheet AE 101 see revised attachment #1 for 2/AE101 RCP layout plan with new Key Note 8AA. See also Item #1.06 for Electrical outlet note for HW 04 Power.
Item 1.06	See Addendum #001 Attachment #1 Sheet AE101 RCP - Plan 2/AE101 add electrical note for HW group 04 as follows: "Provide a duplex receptable outlet above the ceiling on the secured side of the door for power to the door hardware. Connect outlet to the nearest 120-volt receptable power (do not connect to any 120-volt circuit that serves dedicated equipment such as HVAC equipment, x-ray equipment, etc.). Mount outlet above the ceiling so that it is accessible through the access panel in the ceiling. Coordinate with Architectural."
Item 1.07	Sheet AE101 especially 'A'/AE101 security screen elevation - add Key Note 8X at height to match placement of symbol on adjacent glass security panels.
Item 1.08	See Sheet AE301 Detail 3/301 and Sheet AE501 3/501 **Question #5**: Please specify what the attachment of the stone to the metal stud base is on detail 3/AE301 **Answer**: Revise detail to place wire mesh over metal studs with cement mortar bond coat cured mortar bed under hand set stone as per 2008 TCNA W24-05 Method.

Item 1.09	See Sheet AE501 Revised Detail 7/501 Attachment **Question #8**: It was mentioned in the pre-bid meeting that where we are to form the glass to the column bases, plexiglass is to be pieced in where glass can not be shaped to the column. Please clarify. I don't see anything in the bid documents about this. What is meant by the 2" dimension on detail 7/AE501. Is all glass that butts to column covers or anything else for that matter to be held back approximately 1/4 inch and filled with silicone? **Answer**: See Detail 7/501 attachment #2; and all glass that butts to column is held back approximately 1/4" and filled with silicone see Note 7A and Elev. C/101 add Key Note 8Z to read "close gap with shaped 3/4" thick clear polished plastic piece. Epoxy glue to Col/base in line in security glazing and silicone butt edge - see similar note 7A
Item 1.10	Sheet S101 - See new replacement revised structural attachment #3 sheet S101 including new expanded revised details B&C/S101 and revised Key Notes for answers to following questions. **Question #1**: On plan sheet S101 there are no details for the new beam connections to the pan deck beams. Please provide. **Answer**: See attachement #3, replacement sheet S101. **Question #2**: Do these new beams, that anchor to the plan deck in the parking level below, receive 1 hour fire spray? I'm being told that the separation between the parking area and the main level might be 3 hours. Is this sprayed fire protection exposed? The spec is for concealed fire sprayed insulation. **Answer**: See attachment #3, revised Detail B/S101 for the beam attachment to pan joist leg. The detail shows fire protection exposed see note 7C. See also addendum to specification 07811 attachment #4. **Question #3**: Both of the I-Beam details on S101 call out composite deck at the beams. Please clarify. **Answer**: Key Note 8DD was replaced with Key Note 7E see attachement #3 replacement sheet S101 especially expanded clarification noted fire protection on S101.

Specifications

Item	**Description**
Item 1.11	07811 Attachment #4 **Question #4**: Please approve Southwest Fireproofing Products for sprayed fireproofing. **Answer**: Southwest Fireproofing Products is approved as long as they meet or exceed specification 07811 part 2 paragraph 2.1, 2.2 A thru D, 1 thru 10.

Item 1.12	09271 **Question #12**: Please approve WCI to fabricate and install the GRG column covers. **Answer**: WCI is approved as long as they meet or exceed specification 09271, RG fabrications part 2.1 paragraph A,1.

Details

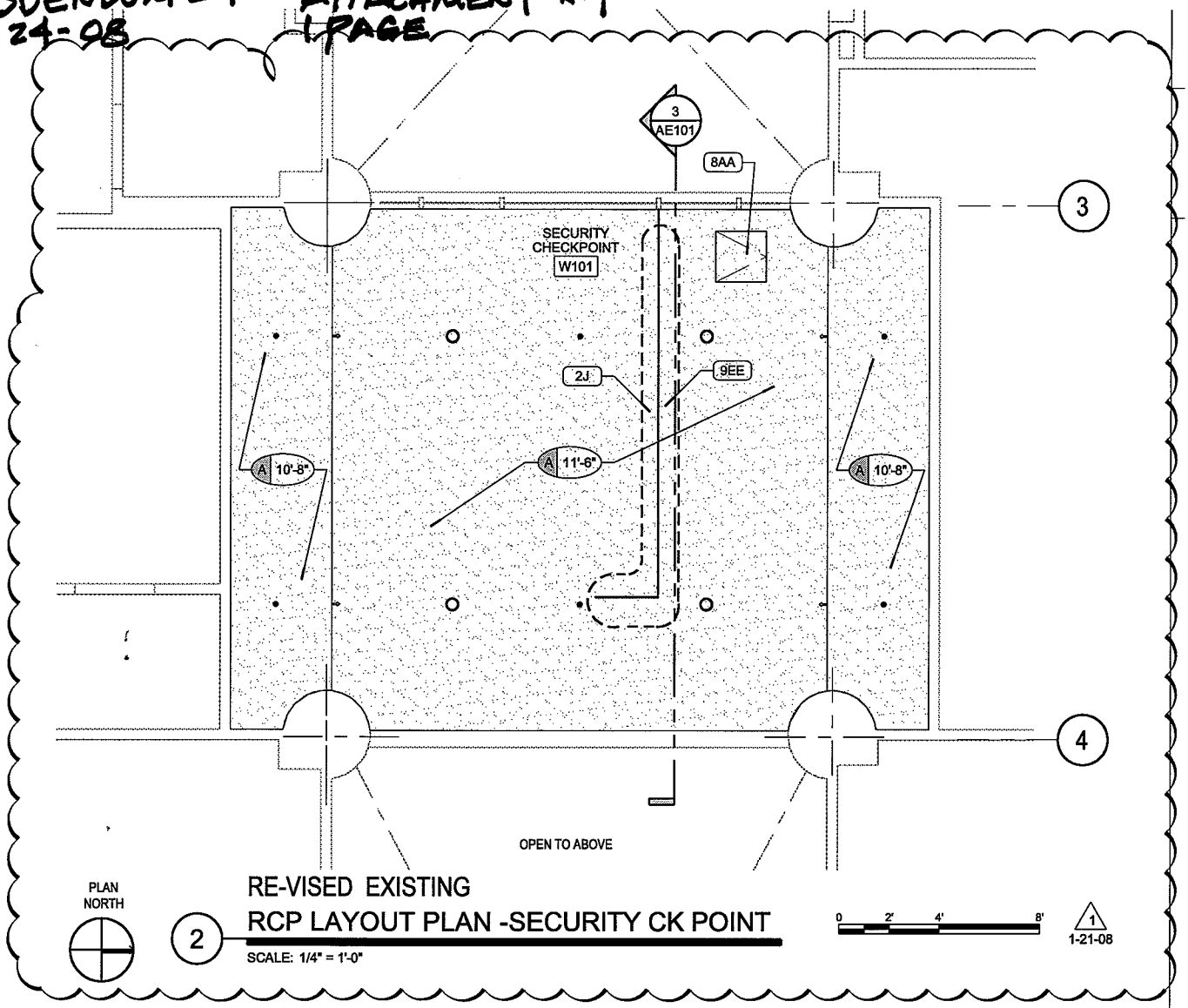
Approvals

End of Addendum # 001

cc :

ADDENDUM #1
1-24-08

ATTACHMENT #1
1 PAGE



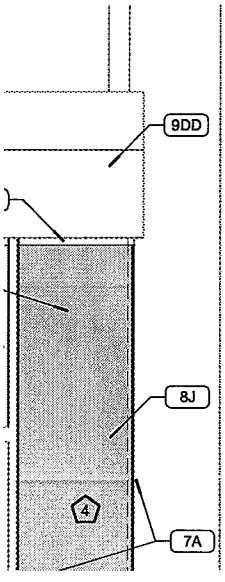
PLAN NORTH

2 RE-VISED EXISTING RCP LAYOUT PLAN -SECURITY CK POINT

SCALE: 1/4" = 1'-0"

0 2' 4' 8'

1 1-21-08



KEYED NOTES

DIVISION 2 - SITEWORK

- 2J REMOVE PORTION OF EXIST'G CEILING SYSTEM (AS-REQUIRED) TO INSTALL NEW STEEL ANGLE HANGER SUPPORT STRUCTURE FOR ANCHORAGE OF NEW GLAZING 'U' CHANNEL - SEE DETAIL 7 ON SHEET AE 701
- 2K 5" W x L x DEPTH - SELECTIVE DEMOLITION & REMOVAL OF EXIST'G STONE PAVER TYPE ST3 OR ST4 (PATTERN 'B') & MORTAR SETTING BED FOR INSTALL OF NEW GLAZING CHANNEL & NEW PAVER SYSTEM REPLACEMENT - (Caution: possible buried conduit)

DIVISION 5 - METALS

- 5A EXISTING RAILING (AS-IS)
- 5L (EXISTING AS-IS) STRUCTURE

DIVISION 7 - THERMAL & MOISTURE PROTECTION

- 7A NEW GLAZING SILICONE JOINT SEALANT x FULL HEIGHT (BETWEEN JOINTS AT SECURITY SCREEN TEMPERED GLASS PANELS TYP.)

DIVISION 8 - DOORS & WINDOWS

- 8B EXISTING FRAME (AS IS)
- 8C REVISE EXIST'G DOOR & FRAME - SEE SHT AE 601
- 8D EXIST'G TEMP GLASS SECURITY SCREEN PANEL- (CLOSE GAP WITH SILICONE (SEE 7A, AT BUTT JOINT) SEE ELEV SHT AE 601 - TYPICAL
- 8E SECURITY EQUIPMENT (DASHED) N.I.C.
- 8G NEW 3/4" THICK TEMPERED GLASS (CLOSE GAPS WITH SILICONE (SEE NOTE 7A) AT BUTT JOINTS) SEE ELEVATIONS TYPICAL

DIVISION 8 - DOORS & WINDOWS (CONT.)

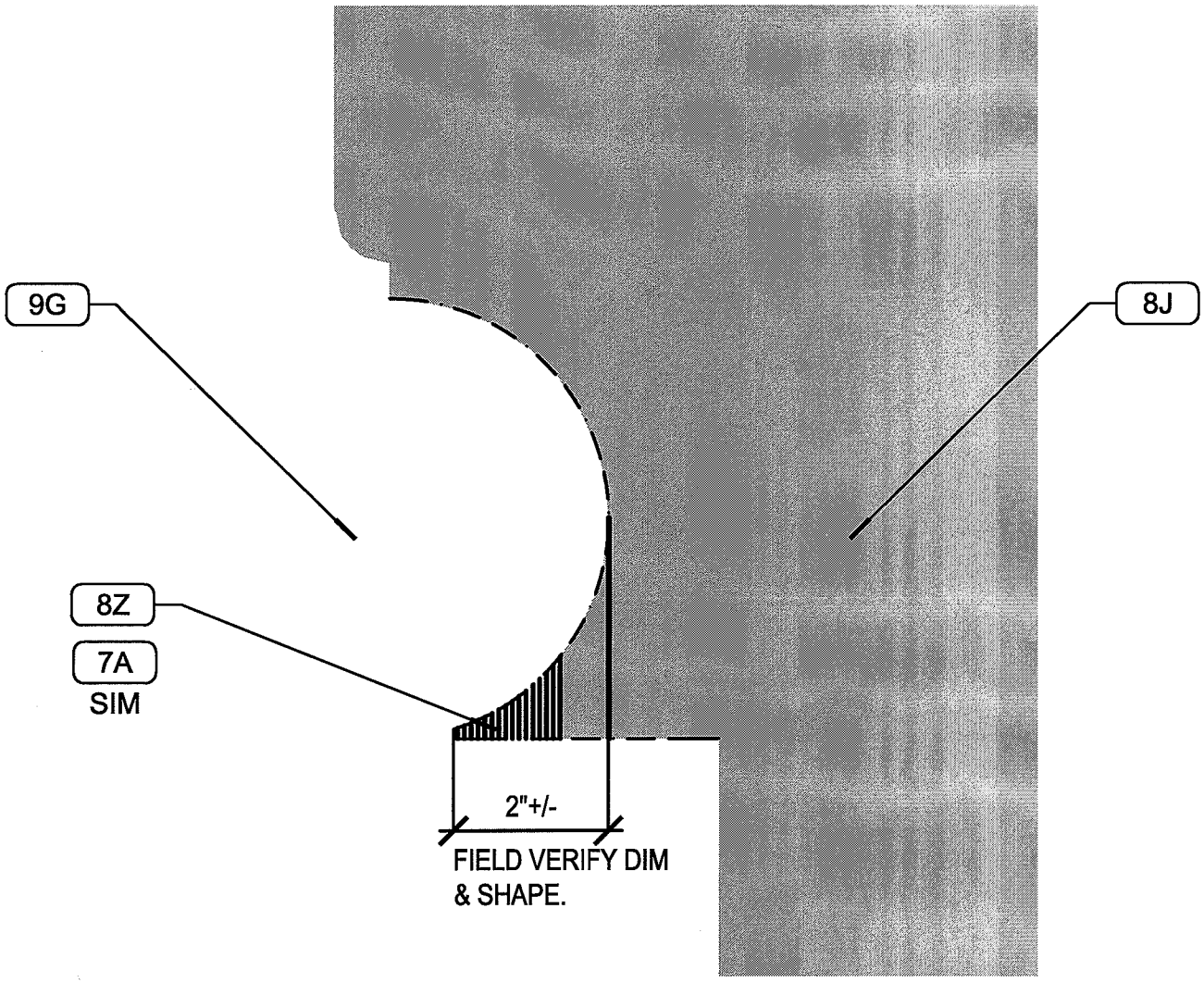
- 8H NEW 1-1/4"x1-1/2"x1/8"x(SEGMENTED LENGTH-SEE ELEVATIONS) 'U'- GLAZING CHANNEL- (MATCH EXISTING)
- 8J SHAPED 3/4" TEMP GLASS (FORM TO FIT PROFILE AT EXISTING COLUMN SEE ELEVATION)
- 8P EXISTING GLASS WALL (AS IS)
- 8X NEW APPLIED SYMBOL (MATCH EXIST'G)
- 8AA NEW CEIL'G ACCESS DOOR (24" x 24") SPEC 08311 SEE ATTACHMENT TO ADDENDUM # 1 (1 - 21 - 08)

DIVISION 9 - FINISHES

- 9G EXISTING FIBER REINFORCED SYSTEM COLUMN (AS-IS)
- 9DD EXISTING FASCIA
- 9EE PATCH & REPAIR AS REQUIRED (MATCH ADJACENT MATERIAL

1 1-21-08

ADDENDUM #1 ATTACHMENT #2
1-24-08 1 PAGE



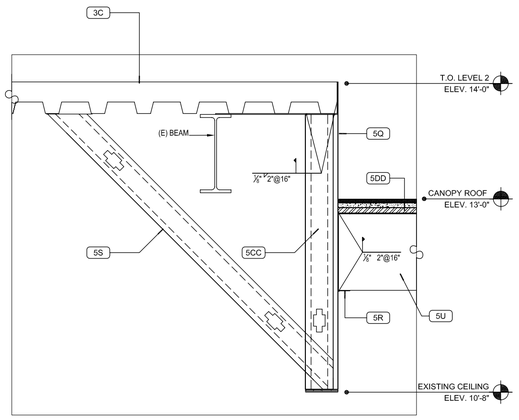
7 SECURITY PLASTIC GLAZING DETAIL

SCALE: 3" = 1'-0"

0 3" 6" 9"

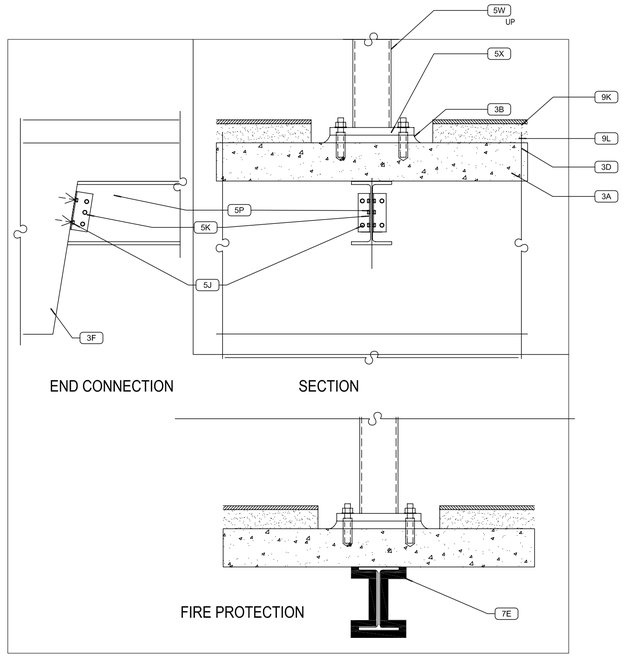
7A NEW GLAZING SILICONE JOINT SEALANT x FULL HEIGHT (BETWEEN JOINTS AT SECURITY SCREEN TEMPERED GLASS PANELS TYP.)

8Z CLOSE GAP WITH SHAPED 3/4" THICK CLEAR POLISHED PLASTIC PIECE. EPOXY GLUE TO COL./ BASE, IN LINE W/ SECURITY GLAZING, & SILICONE BUTT EDGE - SEE SIM NOTE 7A



A STRUCTURAL DETAIL

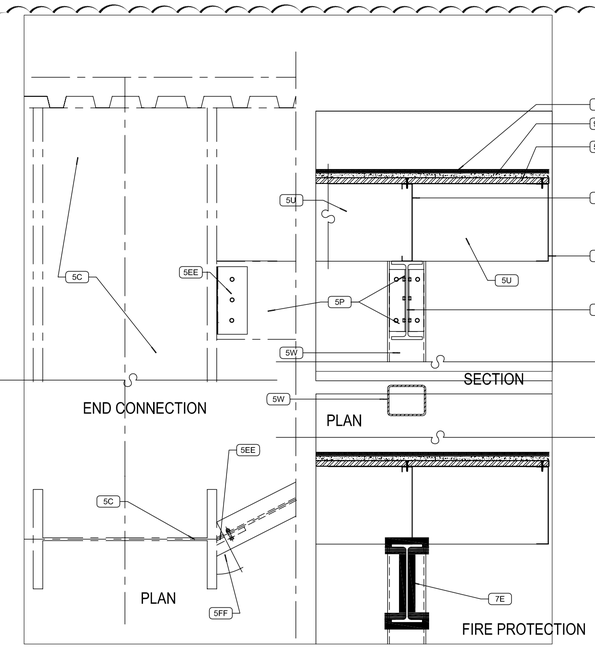
SCALE: 1 1/2" = 1'-0"



ADD'M 1

B COLUMN BASE DETAIL

SCALE: 1 1/2" = 1'-0"



ADD'M 1

C COLUMN BEAM DETAIL

SCALE: 1 1/2" = 1'-0"

KEYED NOTES

DIVISION 3 - CONCRETE

- 3A (EXISTING) THICK SET MORTAR SETTING BED (REPAIR AS REQUIRED)
- 3B SEE KEY NOTE 9KK
- 3C (EXISTING) CONCRETE SLAB ON METAL DECK
- 3D TOP OF EXISTING CONCRETE STRUCTURAL SLAB
- 3F EXIST'G CONC. PAN JOIST (AS IS)

DIVISION 5 - METALS

- 5C EXIST'G STEEL COLUMN (AS - IS)
- 5J (4) 3/4" DIAM x 3" EMBED EXP. ANCHORS
- 5K (3) 3/4" DIAM A325 BOLTS
- 5M (EXISTING) W14x 74 COLUMNS - TYP.
- 5N (EXISTING) W12 x 14 BEAM - TYP.
- 5P (NEW) W10 x 19 STEEL BEAM W/ BACK TO BACK 4" x 4" X 1/4" CLIP ANGLES ATTACH EA LEG W/ (2) 3/4" DIAM A325 BOLTS
- 5Q STRUCTURAL FRAMING, SEE SHT. S101
- 5R 16GA TRACK
- 5S C 3 5/8"x16 GA BRACE @48" O.C. MAX
- 5T 16GA BLOCKING
- 5U C10x16 16 GA JOISTS @16" O.C.
- 5V W 10x19 TYP.(5) PLACES
- 5W TS COL. 5x5x1/4 (TYP. OF 4 LOCATIONS)
- 5X TS COL. BASE PL. 1/2"x11"x11" WITH (4) 1/2" DIAM x3" EMBEDDED EXP. ANCHORS (INTO EXISTING SLAB) SLAB
- 5Y TS 8"x2" SEGMENTED ORNAMENTAL STEEL, PAINTED & ASSEMBLED IN SHOP, WELDED TO EDGE ANGLE
- 5CC NEW C 3 5/8"x16 GA STUDS @ 16" OC W/ 18 GA TRACK AT TOP AND BOTTOM
- 5DD 9/16" (14mm) MECHANICALLY FASTENED NON-COMPOSITE STEEL FORM DECK
- 5EE CONNECTION OF NEW BEAM TO EXIST'G COLUMN SHALL BE W/ SHEAR PLATE (1/2" x 4" w x 9" t) WELD SHEAR PLATE TO EXIST'G COL. & BOLT TO NEW BEAM W/ (3) 3/4" DIAM BOLTS.
- 5FF JOB VERIFY ANGLE

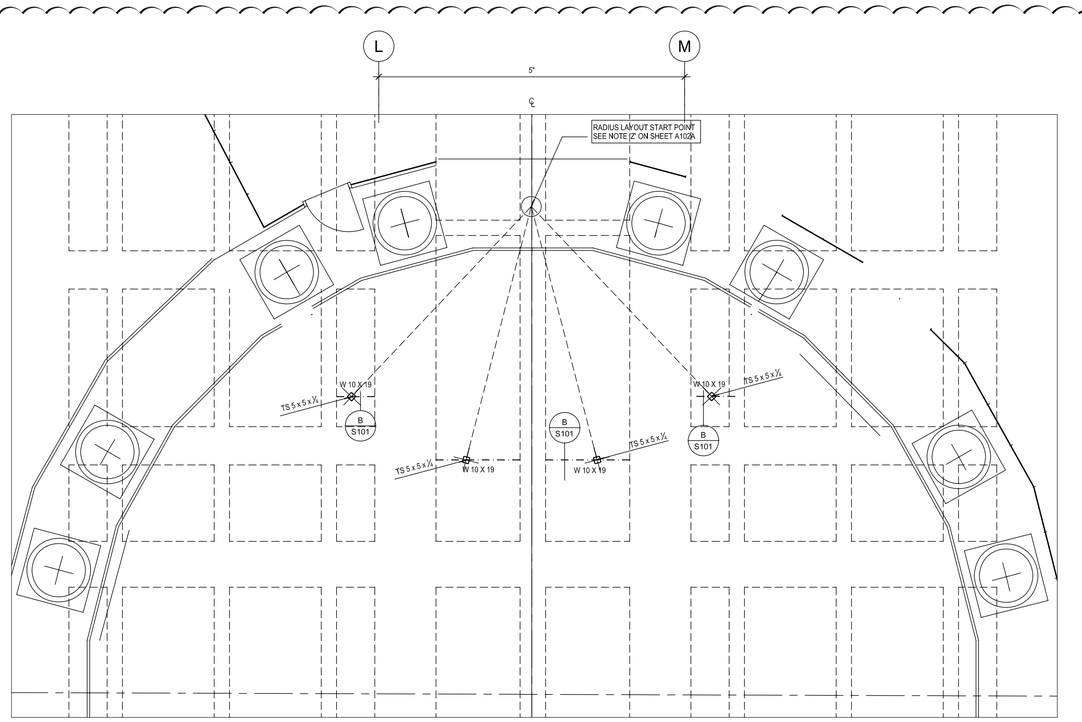
DIVISION 7 - THERMAL & MOISTURE PROTECTION

- 7E 1 HR SPRAY ON FIRE PROOFING OF STRUCTURAL STL COL, BEAM, ETC., SEE SECTION 07811

DIVISION 9 - FINISHES

- 9G EXISTING FIBER REINFORCED SYSTEM COLUMN (AS-IS)
- 9K FINISHED STONE FLOOR (MATCH EXIST'G FLOOR PATTERNS) SEE SHT AE 102
- 9L THICK-SET MORTAR BED - REPAIR AS REQUIRED
- 9T 1/4" THICK FINISH FLOOR STONE ST-2 (THINSET) MATCH FLOOR PATTERN SHOWN SEE CANOPY ROOF PLAN 2 / AE103 (CONTRACT DOCUMENTS)
- 9DD EXISTING FASCIA
- 9HH NEW SEGMENTED FASCIA - SEE SHT AE103
- 9RR 1/2" CEMENTITIOUS BACKER BOARD UNIT

ADD'M 1

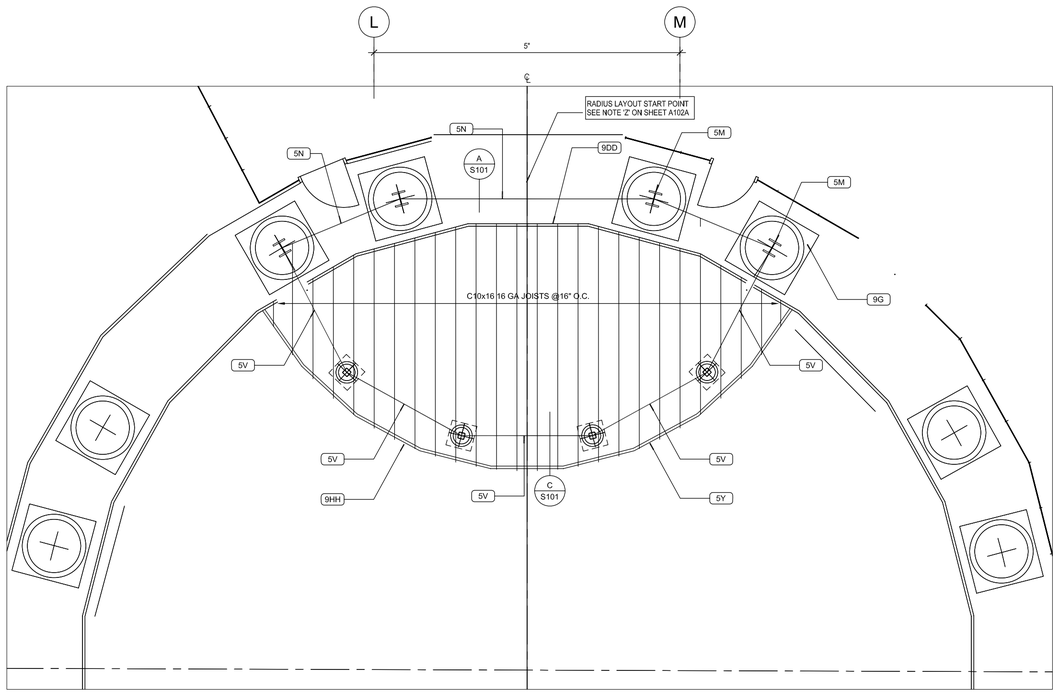


COMPARE W/ARCHITECTURAL SHEET A103

1 LEVEL 1 FRAMING

SCALE: 1/4" = 1'-0"

ADD'M 1



COMPARE W/ARCHITECTURAL SHEET A103

2 CANOPY ROOF FRAMING

SCALE: 1/4" = 1'-0"

ATTACHMENT # 3 -
REPLACEMENT SHEET S101

VCBO
ARCHITECTURE
VALENTINER
CRANE
BRUNJES
ONYON

VCBO ARCHITECTURE
524 SOUTH 600 EAST
SALT LAKE CITY, UTAH 84102
Phone: (801) 575-8800
Fax: (801) 531-9850
WWW: www.vcbo.com

DFCM PROJECT # 07204150- P.1
SECURITY UPGRADE - MATHESON COURTS COMPLEX
450 SOUTH STATE STREET - SALT LAKE CITY, UTAH - 84111

Rev #	Date	Description
1	JAN 21 2008	REVISED SHT S101

Job # 07060.01
CAD File s101.dwg
Drawn MSF Checked
Date —
Owner #
Ins. #

STRUCTURE PLAN & DETAIL

S101

Sheet of Sheets

ADDENDUM #1 ATTACHMENT # 4
1-24-08 9 PAGES

ARCHITECTURAL SPECIFICATION CHANGES

SECURITY ENTRY UPGRADES @ MATHESON COURTS COMPLEX – 07060
DFCM #072044150 -P.1 January 24, 2008

At **SECTION 07811 - SPRAYED FIRE-RESISTIVE MATERIALS** at **PART 2 – PRODUCTS** add **Item 2.4** as follows:

2.4 EXPOSED CEMENTITIOUS SPRAYED FIRE-RESISTIVE MATERIALS

A. **General**: For exposed applications of sprayed fire-resistive materials, provide manufacturer's standard products complying with requirements indicated for material composition and for minimum physical properties of each product listed, measured by standard test methods referenced with each property.

B. **Available Products**:
1. Exposed Cementitious Sprayed Fire-Resistive Material:
   a. **Grace, W. R. & Co.**--Conn., Construction Products Div.; **Monokote Type Z106** or **Z106HY** portland cement binder.
   b. **Isolatek Cafco 400** portland cement binder.

C. **Exposed Cementitious Sprayed Fire-Resistive Material**: Factory-mixed, dry, cement aggregate formulation; or chloride-free formulation of portland cement binders, additives, and inorganic aggregates mixed with water at Project site to form a slurry or mortar for conveyance and application, complying with the following requirements:
1. **Dry Density**: Values for average and individual densities as required for fire-resistance ratings indicated, per ASTM E 605 or AWCI Technical Manual 12-A, Section 5.4.5, "Displacement Method," but with an average density of not less than 22 lb/cu. ft. (625 kg/cu. m).
2. **Bond Strength**: 434 lb/sq. ft. (48 kPa) minimum per ASTM E 736.
3. **Compressive Strength**: 7344 lb./sq. ft. (351 kPa) per ASTM E 761.
4. **Corrosion Resistance**: No evidence of corrosion per ASTM E 937.
5. Deflection: No cracking, spalling, or delamination per ASTM E 759.
6. **Effect of Impact on Bonding**: No cracking, spalling, or delamination per ASTM E 760.
7. **Air Erosion**: Maximum weight loss of 0.025 g/sq. ft. (0.270 g/sq. m) per ASTM E 859.
8. **Combustion Characteristics**: Passes ASTM E 136.
9. **Fire-Test-Response Characteristics**: Provide sprayed fire-resistive materials with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
   a. Flame-Spread Index: 0 or less.
   b. Smoke-Developed Index: 0.
10. **Fungal Resistance**: No observed growth on specimens per ASTM G 21.
11. **Exterior Application**: For exterior applications of sprayed fire-resistive material, provide formulation approved for surfaces exposed to exterior.

At **PART 3 – EXECUTION** add **Item 3.5** as follows:

3.5 INSTALLATION, EXPOSED SPRAYED FIRE-RESISTIVE MATERIALS

A. **Apply exposed sprayed fire-resistive material** in thicknesses and densities not less than those required to achieve fire-resistance ratings designated for each condition, but apply in greater thicknesses and densities if indicated.

1. For steel beams and bracing, provide a thickness of not less than 1 inch (25 mm).
2. For metal floor or roof decks, provide a thickness of not less than 1/2 inch (13 mm).

B. **Provide a uniform finish** complying with description indicated for each type of material and matching Architect's sample or, if none, finish approved for field-erected mockup.

C. **Apply exposed cementitious sprayed fire-resistive material** to produce the following finish:
   1. Uniform Spray-textured finish with no further treatment. Care should be taken to avoid "drop-outs" during final thickness pass. No hand patching will be allowed in exposed areas.

Add **SECTION 07841 - THROUGH-PENETRATION FIRESTOP SYSTEMS**

See attached section.

END OF ARCHITECTURAL SPECIFICATION CHANGES

SECTION 07811 SPRAYED FIRE-RESISTIVE MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. **Concealed** sprayed fire-resistive materials.

B. Related Sections include the following:
   1. **Division 5** Section new **"Structural Steel"** for surface conditions required for structural steel receiving sprayed fire-resistive materials.
   2. **Division 5** Section **"Existing Structural Steel"** for surface conditions required to patch / replace where new connections were used disturbing existing structural steel fire proofing (to match existing thickness).

1.3 DEFINITIONS

A. **Concealed Sprayed Fire-Resistive Materials**: Applied to surfaces that are concealed from view behind other construction when the Work is completed.

1.4 SUBMITTALS

A. **Product Data**: For each type of product indicated.

B. **Shop Drawings**: Structural framing plans indicating the following:
   1. Locations and types of surface preparations required before applying sprayed fire-resistive material.
   2. Extent of sprayed fire-resistive material for each construction and fire-resistance rating, including the following:
      a. Applicable fire-resistance design designations of a qualified testing and inspecting agency acceptable to authorities having jurisdiction.
      b. Minimum thicknesses needed to achieve required fire-resistance ratings of structural components and assemblies.
      c. Designation of restrained and unrestrained conditions based on definitions in ASTM E 119, Appendix X3 as determined by a qualified professional engineer.
   3. Treatment of sprayed fire-resistive material after application.

C. **Product Certificates**: For each type of sprayed fire-resistive material, signed by product manufacturer.

D. **Qualification Data**: For Installer, and manufacturer.

E. **Compatibility and Adhesion Test Reports**: From sprayed fire-resistive material manufacturer indicating the following:
   1. Materials have been tested for bond with substrates.
   2. Materials have been verified by sprayed fire-resistive material manufacturer to be compatible with substrate primers and coatings.
   3. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

F. **Product Test Reports**: Based on evaluation of comprehensive tests performed by a qualified testing agency, for proposed sprayed fire-resistive materials.

G. **Warranties**: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. **Installer Qualifications**: A firm or individual certified, licensed, or otherwise qualified by sprayed fire-resistive material manufacturer as experienced and with sufficient trained staff to

install manufacturer's products according to specified requirements. A manufacturer's willingness to sell its sprayed fire-resistive materials to Contractor or to an installer engaged by Contractor does not in itself confer qualification on the buyer.

B. **Source Limitations**: Obtain sprayed fire-resistive materials through one source from a single manufacturer.

C. **Sprayed Fire-Resistive Materials Testing**: By a qualified testing and inspecting agency engaged by Contractor or manufacturer to test for compliance with specified requirements for performance and test methods.
   1. Sprayed fire-resistive materials are randomly selected for testing from bags bearing the applicable classification marking of UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
   2. Testing is performed on specimens of sprayed fire-resistive materials that comply with laboratory testing requirements specified in Part 2 and are otherwise identical to installed fire-resistive materials, including application of accelerant, sealers, topcoats, tamping, troweling, rolling, and water overspray, if any of these are used in final application.
   3. Testing is performed on specimens whose application the independent testing and inspecting agency witnessed during preparation and conditioning. Include in test reports a full description of preparation and conditioning of laboratory test specimens.

D. **Compatibility and Adhesion Testing**: Engage a qualified testing and inspecting agency to test for compliance with requirements for specified performance and test methods.
   1. Test for bond per ASTM E 736 and requirements in UL's "Fire Resistance Directory" for coating materials. Provide bond strength indicated in referenced fire-resistance design, but not less than minimum specified in Part 2.
   2. Verify that manufacturer, through its own laboratory testing or field experience, has not found primers or coatings to be incompatible with sprayed fire-resistive material.

E. **Fire-Test-Response Characteristics**: Provide sprayed fire-resistive materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify bags containing sprayed fire-resistive materials with appropriate markings of applicable testing and inspecting agency.
   1. **Fire-Resistance Ratings**: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another testing and inspecting agency acceptable to authorities having jurisdiction, for sprayed fire-resistive material serving as direct-applied protection tested per ASTM E 119.
   2. Surface-Burning Characteristics: ASTM E 84.

F. **Asbestos Free**: Provide products containing no detectable asbestos as determined according to the method specified in 40 CFR 763, Subpart E, Appendix E, Section 1, "Polarized Light Microscopy."

G. **Pre-installation Conference**: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to sprayed fire-resistive materials including, but not limited to, the following:
   1. Review and finalize construction schedule and verify sequencing and coordination requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to Project site in original, unopened packages with intact and legible manufacturers' labels identifying product and manufacturer, date of manufacture, shelf life if applicable, and fire-resistance ratings applicable to Project.

B. Use materials with limited shelf life within period indicated. Remove from Project site and discard materials whose shelf life has expired.

C. Store materials inside, under cover, aboveground, and kept dry until ready for use. Remove from Project site and discard wet or deteriorated materials.

1.7 PROJECT CONDITIONS

A. **Environmental Limitations**: Do not apply sprayed fire-resistive material when ambient or substrate temperature is 40 deg F (4 deg C) or lower unless temporary protection and heat is provided to maintain temperature at or above this level for 24 hours before, during, and for 24 hours after product application. General Contractor shall provide enclosures with heat to maintain temperatures.

B. **Ventilation**: Ventilate building spaces during and after application of sprayed fire-resistive material. Use natural means or, if they are inadequate, forced-air circulation until fire-resistive material dries thoroughly. Ventilation shall not be less than 4 complete air exchanges per hour until the SFRM is fully cured. General Contractor shall provide ventilation to allow proper drying of the SFRM during and subsequent to its application.

1.8 COORDINATION

A. Sequence and coordinate application of sprayed fire-resistive materials with other related work specified in other Sections to comply with the following requirements:
   1. Provide temporary enclosure as required to confine spraying operations and protect the environment.
   2. Avoid unnecessary exposure of fire-resistive material to abrasion and other damage likely to occur during construction operations subsequent to its application.
   3. Do not begin applying fire-resistive material until clips, hangers, supports, sleeves, and other items penetrating fire protection are in place.
   4. Defer installing ducts, piping, and other items that would interfere with applying fire-resistive material until application of fire protection is completed.
   5. Do not install enclosing or concealing construction until after fire-resistive material has been applied, inspected, and tested and corrections have been made to defective applications.

1.9 WARRANTY

A. **Special Warranty**: Manufacturer's standard form, signed by Contractor and by Installer, in which manufacturer agrees to repair or replace sprayed fire-resistive materials that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:
   1. Cracking, flaking, spalling, or eroding in excess of specified requirements; peeling; or delaminating of sprayed fire-resistive materials from substrates.
   2. Not covered under the warranty are failures due to damage by occupants and Owner's maintenance personnel, exposure to environmental conditions other than those investigated and approved during fire-response testing, and other causes not reasonably foreseeable under conditions of normal use.

B. **Warranty Period**: **Two years** from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
   1. **Available Products**: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified.

2.2 CONCEALED SPRAYED FIRE-RESISTIVE MATERIALS

A. **General:** For concealed applications of sprayed fire-resistive materials, provide manufacturer's standard products complying with requirements indicated for material composition and physical properties representative of installed products.

B. **Available Products**:
   1. Cementitious Sprayed Fire-Resistive Material:
      a. **Grace, W. R. & Co**. Conn., Construction Products Div.; Monokote

Type MK-6/HY.

b. **Isolatek Cafco 300**.

C. **Material Composition**: As follows:

1. Cementitious sprayed fire-resistive material consisting of factory-mixed, dry formulation of gypsum cement binders and lightweight mineral or synthetic aggregates mixed with water at Project site to form a slurry or mortar for conveyance and application.

D. **Physical Properties**: Minimum values, unless otherwise indicated, or higher values required to attain designated fire-resistance ratings, measured per standard test methods referenced with each property as follows:

1. **Dry Density**: 15 lb/cu. ft. (240 kg/cu. m) for average and individual densities regardless of density indicated in referenced fire-resistance design, or greater if required to attain fire-resistance ratings indicated, per ASTM E 605 or AWCI Technical Manual 12-A, Section 5.4.5, "Displacement Method."
2. **Thickness**: Provide minimum average thickness required for fire-resistance design indicated according to the following criteria, but not less than 0.375 inch (9 mm), per ASTM E 605:
   a. Where the referenced fire-resistance design lists a thickness of 1 inch (25 mm) or greater, the minimum allowable individual thickness of sprayed fire-resistive material is the design thickness minus 0.25 inch (6 mm).
   b. Where the referenced fire-resistance design lists a thickness of less than 1 inch (25 mm) but more than 0.375 inch (9 mm), the minimum allowable individual thickness of sprayed fire-resistive material is the greater of 0.375 inch (9 mm) or 75 percent of the design thickness.
   c. No reduction in average thickness is permitted for those fire-resistance designs whose fire-resistance ratings were established at densities of less than 15 lb/cu. ft. (240 kg/cu. m).
3. **Bond Strength**: 150 lb/sq. ft. (7.2 kPa) minimum per ASTM E 736 under the following conditions:
   a. Field test sprayed fire-resistive material that is applied to flanges of wide-flange, structural-steel members on surfaces matching those that will exist for remainder of steel receiving fire-resistive material.
   b. If surfaces of structural steel receiving sprayed fire-resistive material are primed or otherwise painted for coating materials, perform series of bond tests specified in UL's "Fire Resistance Directory." Provide bond strength indicated in referenced UL fire-resistance criteria, but not less than 150 lb/sq. ft. (7.2 kPa) minimum per ASTM E 736.
   c. Minimum thickness of sprayed fire-resistive material tested in laboratory shall be 0.75 inch (19 mm).
4. **Compressive Strength**: 750 lb /sq.ft. (35.9 kPa) as determined in the laboratory per ASTM E 761. Minimum thickness of sprayed fire-resistive material tested shall be 0.75 inch (19 mm) and minimum dry density shall be as specified, but not less than 15 lb/cu. ft. (240 kg/cu. m).
5. **Corrosion Resistance**: No evidence of corrosion per ASTM E 937.
6. **Deflection**: No cracking, spalling, or delamination per ASTM E 759.
7. **Effect of Impact on Bonding**: No cracking, spalling, or delamination per ASTM E 760.
8. **Air Erosion**: Maximum weight loss of **0.025 g/sq. ft. (0.270 g/sq. m)** in 24 hours per ASTM E 859. For laboratory tests, minimum thickness of sprayed fire-resistive material is 0.75 inch (19 mm), maximum dry density is 15 lb/cu. ft. (240 kg/cu. m), test specimens are not prepurged by mechanically induced air velocities, and tests are terminated after 24 hours.
9. **Fire-Test-Response Characteristics**: Provide sprayed fire-resistive materials with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
   a. Flame-Spread Index: 0 or less.
   b. Smoke-Developed Index: 0.

10. **Fungal Resistance**: No observed growth on specimens per ASTM G 21.

2.3 AUXILIARY FIRE-RESISTIVE MATERIALS

A. **General**: Provide auxiliary fire-resistive materials that are compatible with sprayed fire-resistive materials and substrates and are approved by UL or another testing and inspecting agency acceptable to authorities having jurisdiction for use in fire-resistance designs indicated.

B. **Substrate Primers**: For use on each substrate and with each sprayed fire-resistive product, provide primer that complies with one or more of the following requirements:
   1. Primer's bond strength complies with requirements specified in UL's "Fire Resistance Directory," for coating materials based on a series of bond tests per ASTM E 736.
   2. Primer is identical to those used in assemblies tested for fire-test-response characteristics of sprayed fire-resistive material per ASTM E 119 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.

C. **Adhesive for Bonding Fire-Resistive Material**: Product approved by manufacturer of sprayed fire-resistive material.

D. **Topcoat**: Type recommended in writing by manufacturer of each sprayed fire-resistive material for application over exposed sprayed fire-resistive materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrates and other conditions affecting performance of work. A substrate is in satisfactory condition if it complies with the following:
   1. Substrates comply with requirements in the Section where the substrate and related materials and construction are specified.
   2. Substrates are free of oil, grease, rolling compounds, incompatible primers, loose mill scale, dirt, or other foreign substances capable of impairing bond of fire-resistive materials with substrates under conditions of normal use or fire exposure.
   3. Objects penetrating fire-resistive material, including clips, hangers, support sleeves, and similar items, are securely attached to substrates.
   4. Substrates are not obstructed by ducts, piping, equipment, and other suspended construction that will interfere with applying fire-resistive material.

B. Conduct tests according to fire-resistive material manufacturer's written recommendations to verify that substrates are free of oil, rolling compounds, and other substances capable of interfering with bond.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. **Cover other work** subject to damage from fallout or overspray of fire-resistive materials during application.

B. **All surfaces to receive fire protection shall be free of oil**, grease, loose mill scale, dirt paints/primers (other then those listed and tested) or other foreign materials, which would impair satisfactory bonding to the surface. Manufacturer shall be contacted for procedures on handling primed/painted steel. Any cleaning of the surfaces to receive sprayed fire protection shall be the responsibility of the General Contractor or Steel Erector.

3.2 INSTALLATION, GENERAL

A. **Comply with fire-resistive material manufacturer's written instructions** for mixing materials, application procedures, and types of equipment used to mix, convey, and spray on fire-resistive material, as applicable to particular conditions of installation and as required to achieve fire-resistance ratings indicated.

B. **Apply sprayed fire-resistive material** that is identical to products tested as specified in Part 1 "Quality Assurance" Article and substantiated by test reports, with respect to rate of application, accelerator use, sealers, topcoats, tamping, troweling, water overspray, or other materials and procedures affecting test results.

C. **Coat substrates** with adhesive before applying fire-resistive material where required to achieve fire-resistance rating or as recommended in writing by sprayed fire-resistive material manufacturer for material and application indicated.

D. **Extend fire-resistive material** in full thickness over entire area of each substrate to be protected. Unless otherwise recommended in writing by sprayed fire-resistive material manufacturer, install body of fire-resistive covering in a single course.

E. **Spray-apply fire resistive materials to maximum extent possible**. Following the spraying operation in each area, complete the coverage by trowel application or other placement method recommended in writing by sprayed fire-resistive material manufacturer.

3.3 INSTALLATION, CONCEALED SPRAYED FIRE-RESISTIVE MATERIALS

A. Apply concealed sprayed fire-resistive material in thicknesses and densities not less than those required to achieve fire-resistance ratings designated for each condition, but apply in greater thicknesses and densities if specified in Part 2 "Concealed Sprayed Fire-Resistive Materials" Article.

3.3 FIELD QUALITY CONTROL

A. **Testing Agency**: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and to prepare test reports.
   1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.

B. **Testing Services**: Testing and inspecting of completed applications of sprayed fire-resistive material shall take place in successive stages, in areas of extent and using methods as follows. Do not proceed with application of sprayed fire-resistive material for the next area until test results for previously completed applications of sprayed fire-resistive material show compliance with requirements. Tested values must equal or exceed values indicated and required for approved fire-resistance design.
   1. **Thickness for Structural Frame Members**: From a sample of 25 percent of structural members per floor, taking 9 measurements at a single cross section for structural frame beams or girders, 7 measurements of a single cross section for joists and trusses, and 12 measurements of a single cross section for columns per ASTM E 605.
   2. **Structural Frame Members**: At frequency and from sample size indicated for determining thickness of each type of construction and structural framing member, per ASTM E 605 or AWCI Technical Manual 12-A, Section 5.4.5, "Displacement Method."
   3. **Bond Strength for Structural Framing Members**: For each 10,000-sq. ft. (929 sq. m) area, or partial area, on each floor, cohesion and adhesion from one sample of size indicated for determining thickness of each type of construction and structural framing member, per ASTM E 736.
   4. If testing finds applications of sprayed fire-resistive material are not in compliance with requirements, testing and inspecting agency will perform additional random testing to determine extent of noncompliance.

C. Remove and replace applications of sprayed fire-resistive material where test results indicate that it does not comply with specified requirements for cohesion and adhesion, for density, or for both.

D. Apply additional sprayed fire-resistive material per manufacturer's written instructions where test results indicate that thickness does not comply with specified requirements.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.4 CLEANING, PROTECTING, AND REPAIR

A. Cleaning: Immediately after completing spraying operations in each containable area of Project, remove material overspray and fallout from surfaces of other construction and clean exposed surfaces to remove evidence of soiling.

B. Protect sprayed fire-resistive material, according to advice of product manufacturer and Installer, from damage resulting from construction operations or other causes so fire protection will be without damage or deterioration at time of Substantial Completion.

C. Coordinate application of sprayed fire-resistive material with other construction to minimize need to cut or remove fire protection. As installation of other construction proceeds, inspect sprayed fire-resistive material and patch any damaged or removed areas.

D. Repair or replace work that has not been successfully protected.

END OF SECTION 07811

ADDENDUM #1
1-24-08

ATTACHMENT # 5
2 PAGES

January 21, 2008

SECTION 08311 ACCESS DOORS AND FRAMES (Addendum No. 1)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawing and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
1. **Ceiling access** doors and frames.

1.3 SUBMITTALS

A. **Product Data**: For each type of door and frame indicated. Include construction details relative to materials, individual components and profiles, finishes, and fire ratings (if required) for access doors and frames.

B. **Shop Drawings**: Show fabrication and installation details of customized doors and frames. Include plans, elevations, sections, details, and attachments to other Work.

C. **Schedule**: Provide complete door and frame schedule, including types, general locations, sizes, construction details, latching or locking provisions, and other data pertinent to installation.

D. **Coordination Drawings**: Reflected ceiling plans drawn to scale and coordinating penetrations and ceiling-mounted items with concealed framing, suspension systems, piping, ductwork, and other construction. Show the following:
1. Method of attaching door frames to surrounding construction.
2. Ceiling-mounted items including access doors and frames, lighting fixtures, diffusers, grilles, speakers, sprinklers, and special trim.

1.4 QUALITY ASSURANCE

A. **Source Limitations**: Obtain doors and frames through one source from a single manufacturer.

B. **Size Variations**: Obtain Architect's acceptance of manufacturer's standard-size units, which may vary slightly from sizes indicated.

1.5 COORDINATION

A. **Verification**: Determine specific locations and sizes for access doors needed to gain access to concealed equipment, and indicate on schedule specified in "Submittals" Article.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. **Available Manufacturers**: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. **Access Doors**:
a. **Babcock-Davis.**
b. **J. L. Industries**, Inc.

c. **Larsen's** Manufacturing Company.
d. **Milcor** Limited Partnership.

2.2 ACCESS DOORS AND FRAMES

A. **Design Standard: Babcock-Davis** series **B-LW** 24" x 24"
1. **Door:** 0.063 inch aluminum panel insert.
2. **Frame**: 0.045 6063-T5 extruded aluminum..
3. **Hinges**: Zinc plated continuous piano hinge.
4. **Latch**: Screwdriver cam latch.
5. **Flange**: Rolled 15/16" wide.
6. **Finish**: White embossed aluminum.
7. **Insulation**: ¾" polystyrene with 3.8 R value at 75 degrees F.

PART 3 - EXECUTION

3.1 PREPARATION

A. Advise installers of other work about specific requirements relating to access door and floor door installation, including sizes of openings to receive access door and frame, as well as locations of supports, inserts, and anchoring devices.

3.2 INSTALLATION

A. Comply with manufacturer's written instructions for installing access doors and frames and floor doors and frames.

B. Set frames accurately in position and attach securely to supports with plane of face panels aligned with adjacent finish surfaces.

C. Install access doors with trimless frames and floor doors flush with adjacent finish surfaces or recessed to receive finish material.

3.3 ADJUSTING AND CLEANING

A. Adjust doors and hardware after installation for proper operation.

B. Remove and replace doors and frames that are warped, bowed, or otherwise damaged.

END OF SECTION 08311